Washington State Department of Health

ELABORATIONS

News and Issues for Washington's Clinical Laboratories

Volume X Issue 5 May/June 2005

Influenza Proficieny Testing Update

by Leonard Kargacin, DOH/LQA

On April 13, 2005, the Centers for Disease Control and Prevention (CDC) issued a health advisory describing the inadvertent distribution of proficiency testing (PT) samples containing the H2N2 influenza A virus to domestic and international laboratories. This action was deemed prudent because of the length of time since this virus subtype circulated among humans and the consequent waning of immunity and corresponding increase in susceptibility of humans.

The H2N2 influenza virus was inadvertently included in PT samples distributed by Meridian Bioscienc Laboratory to the following PT providers: the College of American Pathologists (CAP); American Association of Bioanalysts (AAB); American Academy of Family Physicians (AAFP); and the American College of Physicians (MLE). These PT providers in turn distributed the affected samples to laboratories participating in their proficiency testing programs.

As soon as the problem was discovered, the PT providers immediately contacted the CDC and the individual laboratories that received the samples making them aware of the problem, providing information on the proper disposal of the samples, and requesting confirmation that the laboratory destroyed the affected samples.

The Office of Laboratory Quality Assurance (LQA) staff assisted the Association of Public Health Laboratories (APHL) in monitoring the Washington laboratories that received these samples. There were 86 laboratories licensed by the Medical Test Site program in Washington that potentially could have received the samples contining the H2N2 virus. LQA staff directly contacted all 86 laboratories and provided them with information about the problem and forwarded information about the proper protocols for destruction of the affected samples. In addition, laboratories were required to provide written confirmation that they destroyed the affected samples. Out of the 86 laboratories that potentially could have received samples containing the H2N2 virus, 63 actually did receive the samples and provided destruction confirmation information. The other 23 laboratories did not receive the H2N2 samples.

There has been no documented evidence that any laboratory workers were infected with the H2N2 virus in the course of routine analysis of these PT samples.

Inside This Issue

Practice Guidelines

The following practice guidelines have been developed by the Clinical Laboratory Advisory Council. They can be accessed at the following website:
www.doh.wa.gov/lqa.htm

- Anemia
- ANA
- Bioterrorism Event Mgmt
- Bleeding Disorders
- Chlamydia
- Diabetes
- Group A Strep Pharyngitis
- Hepatitis
- HIV
- Infectious Diarrhea
- Intestinal Parasites
- Lipid Screening
- PAP Smear
- Point-of-Care Testing
- PSA
- Rash Illness
- Red Cell Transfusion
- Renal Disease
- STD
- Thyroid
- Tuberculosis
- Urinalysis
- Wellness

Lymphogranuloma Venereum (LGV) Resurgence

by Katherine Gudgel, DOH/STD Program

Recently there has been a resurgence of lymphogranuloma venereum (LGV) caused by *Chlamydia trachomatis* serovars L1, L2 and L3 among men who have sex with men (MSM) in the Netherlands. Three cases of LGV were reported in the US in 2004. The Centers for Disease Control and Prevention (CDC) has created a website on LGV: www.cdc.gov/std/lgv. It includes information sheets, patient workup sheets, and exact instructions for specimen collection.

If a person is at risk for LGV (MSM exposed to persons from Europe and MSM with symptoms compatible with LGV such as proctitis, proctocolitis, inguinal/femoral lymphadenopathy), or exhibits symptoms of LGV as described in the October 29, 2004, MMWR (see website above), the Washington State Department of Health (DOH), in accordance with CDC, requests the following actions be taken:

- Collect rectal and serum specimens from the patient that will be sent to CDC via the DOH Public Health Laboratoreis (PHL). Refer to the CDC website above for the proper procedures. *(Optional: If the patient agrees, collect an additional rectal specimen for culture to be sent to the University of Washington Chlamydia Laboratory for concurrent testing. Call (206) 341-5300 for instructions.)*
- Complete the specimen information and patient information sheets and **include them with the specimens to be sent to the PHL.**
- Notify your local health jurisdiction and CDC that you have a suspect case of LGV using the confidential DOH STD case report for the county and the patient information sheet for CDC.
- Within two (2) days, send the rectal swab and serum to the Washington State Public Health Laboratories, 1610 NE 150th St., Shoreline, WA 98155 with clear, obvious notation that the specimens should be forwarded to CDC for LGV testing.
- Provide treatment to the suspected case and evaluate sex partners who had contact with the patient within 30 days of the onset of the patient's symptoms. Recommended treatment for LGV is doxycycline 100 mg twice a day for 21 days. Alternative treatment is erythromycin base 500 mg orally 4 times a day for 21 days. Sex partners who have symptoms consistent with LGV should be tested in the same manner as the initial patient. Those with no symptoms should be treated with 1 gram azithromycin in a single dose or 100 mg doxycycline twice a day for 7 days. See page 18 in the 2002 CDC STD Treatment Guidelines for information on pregnant women and HIV positive patients.

NOTE: Non-culture specimens should be sent to the DOH PHL to be forwarded to CDC. Culture specimens should be sent directly to the UW Chlamydia Lab. Providing the UW with a specimen for culture could aid in the understanding of LGV and may also afford the clinician with faster confirmed results than the specimens sent to CDC. Please call (206) 341-5300 for instructions on culture specimen collection and transport.

For more information on public health issues related to LGV, contact the Department of Health STD Program at (360) 236-3460. For clinical consultation, contact Matthew Golden, MD, MPH at (206) 731-6829.

ELABORATIONS is a free monthly publication of the Washington State Department of Health (DOH) Public Health Laboratories (PHL) and Office of Laboratory Quality Assurance (LQA).

Secretary, DOH: Mary Selecky
Health Officer: Maxine Hayes, MD, MPH
Director, PHL: Romesh Gautom, PhD
Program Manager, LQA: Susan Walker
Editor: Leonard Kargacin (206) 418-5416
Circulation: Leonard Kargacin (206) 418-5416

Comments, letters to the editor, information for publication, and requests for subscription can be directed to:
ELABORATIONS
Washington State Public Health Labs
1610 NE 150th Street
Shoreline, WA 98155

e-mail address: leonard.kargacin@doh.wa.gov

NOTE: Letters to the editor may be published unless specified otherwise by the author.

Website addresses:
DOH home page: http://www.doh.wa.gov
LQA home page: http://www.doh.wa.gov/lqa.htm
PHL home page:
http://www.doh.wa.gov/EHSPHL/PHL/default.htm

What *Are* Chemical Terrorism Agents, Anyway? Part 2 – Blood Agents

by Catherine Franklin, PhD, DOH/PHL

This is the second in a series of articles describing chemical warfare agents and available clinical methods for identifying and quantifying exposure.

Hydrogen cyanide (HCN), cyanide salts, cyanogens, arsine (AsH_3), and stibine (SbH_3) are termed blood agents because they are poisons that are absorbed and disseminated through the body *via* the bloodstream. Reviewing the physical properties of these chemicals shows that arsine, stibine and cyanogen chloride (ClCN) are gaseous substances at normal temperatures (~20°C, 68°F). Hydrogen cyanide boils at 26°C (~79°F) and thus may be encountered as both gas and liquid depending on the ambient temperature. Common cyanide salts, NaCN and KCN for example, are colorless to white granular, crystalline, or powdery solids, depending on the specific salt, and rapidly react with any acid source to produce hydrogen cyanide.

Cyanides have been classified as warfare agents since World War I, although their use was not very successful unless the agent was contained in an enclosed area. Arsine was investigated as a potential warfare agent during World War II but was never used. Cyanide has many industrial uses in the chemical, mining, and metal processing industries, and over 1.5 billion pounds of cyanide are produced each year. Arsine has few industrial applications, and is mostly encountered in industry as a byproduct of other processes, such as smelting. Stibine is used as a dopant in the manufacture of semiconductors and is produced *in situ* in small amounts.

Liquid and gaseous blood agents are nonpersistent. The persistence of solid blood agents depends on the environmental circumstances and how easily the solid dissolves in water. Contact with a casualty who is contaminated with liquid blood agent can lead to additional casualties, while the amount of gaseous agent that may be trapped in clothing is usually small enough to pose no secondary hazard to others.

The primary routes of exposure to gas and liquid blood agents are by inhalation or absorption through intact skin. Solid blood agent exposure occurs through ingestion. The cyanides produce immediate symptoms of exposure which depend on the dose. Low exposure levels result in symptoms such as lethargy, rapid breathing, dizziness, nausea, and vomiting. Larger doses may result in convulsions, loss of consciousness, respiratory failure, and death. Cyanogen chloride rapidly produces effects similar to those of riot control agents, causing irritation of the eyes, nose, and airways. Symptoms of arsine exposure can take as much as twenty-four hours to appear and include weakness, headache, shortness of breath, muscle cramps, nausea and vomiting, and bloody urine. Higher dose exposures result in convulsions, loss of consciousness, and respiratory failure.

Aggressive airway management and administration of 100% oxygen are the primary treatments for all blood agent exposures. Severe cyanide poisoning is treated with one of a variety of antidotes, all of which are intended to reverse the binding of cyanide to cytochrome oxidase and other metalloenzymes. Arsine has no antidote and treatment is supportive for vascular, renal, hematologic, and respiratory functioning.

Cyanide exposure levels are determined by the direct measurement of cyanide in blood providing the specimen is drawn within a few hours after exposure. The WAPHL is using Gas Chromatography/Mass Spectroscopy to perform headspace analysis of HCN from acidified whole blood. The normal reference range for cyanide in whole blood is 0.02-0.05 microgram/mL. Cyanide is rapidly transported out of the blood into the tissue, thus the need for specimen collection in a timely manner.

Arsine exposure levels are determined at WAPHL by measuring urine arsenic levels using Inductively Coupled Plasma/Mass Spectroscopy. Urine specimens should be collected eight to 12 hours post exposure if possible. Complicating arsine analysis is the need to differentiate between toxic inorganic arsenic and “nutritional” arsenic. Interferences also occur if the patient has consumed shellfish in the previous three days.

For more information about the DOH Public Health’s Chemical Incident Response program, contact Trace Warner (360-236-3387, trace.warner@doh.wa.gov) or Cate Franklin (206-418-5643, catherine.franklin@doh.wa.gov).

Test Complexity Information

Q: Where can I find information about whether a specific test or test kit is categorized as waived, moderate, or high complexity?

A: This information can be found at the following website:

http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfCLIA/search.cfm

Q: Where can I find a list of the current waived tests?

A. This information can be found at the following website: http://www.doh.wa.gov/lqa.htm

Select the side-bar "MTS Laws"

Select "Waived Test List"

Calendar of Events

PHL Training Classes:
(http://www.doh.wa.gov/EHSPHL/PHL/train.htm)

Parasitology Part IV: Blood Parasites
June 8 & 9 Shoreline

Northwest Medical Laboratory Symposium
October 26-29, 2005 Seattle

12th Annual Clinical Laboratory Conference
November 7, 2005 Seattle

2006 WSSCLS/NWSSAMT Spring Meeting
April 2006 Seattle

Contact information for the events listed above can be found on page 2. The Calendar of Events is a list of upcoming conferences, deadlines, and other dates of interest to the clinical laboratory community. If you have events that you would like to have included, please mail them to ELABORATIONS at the address on page 2. Information must be received at least one month before the scheduled event. The editor reserves the right to make final decisions on inclusion.

ELABORATIONS
Washington State Department of Health
1610 NE 150th Street
Shoreline, WA 98155